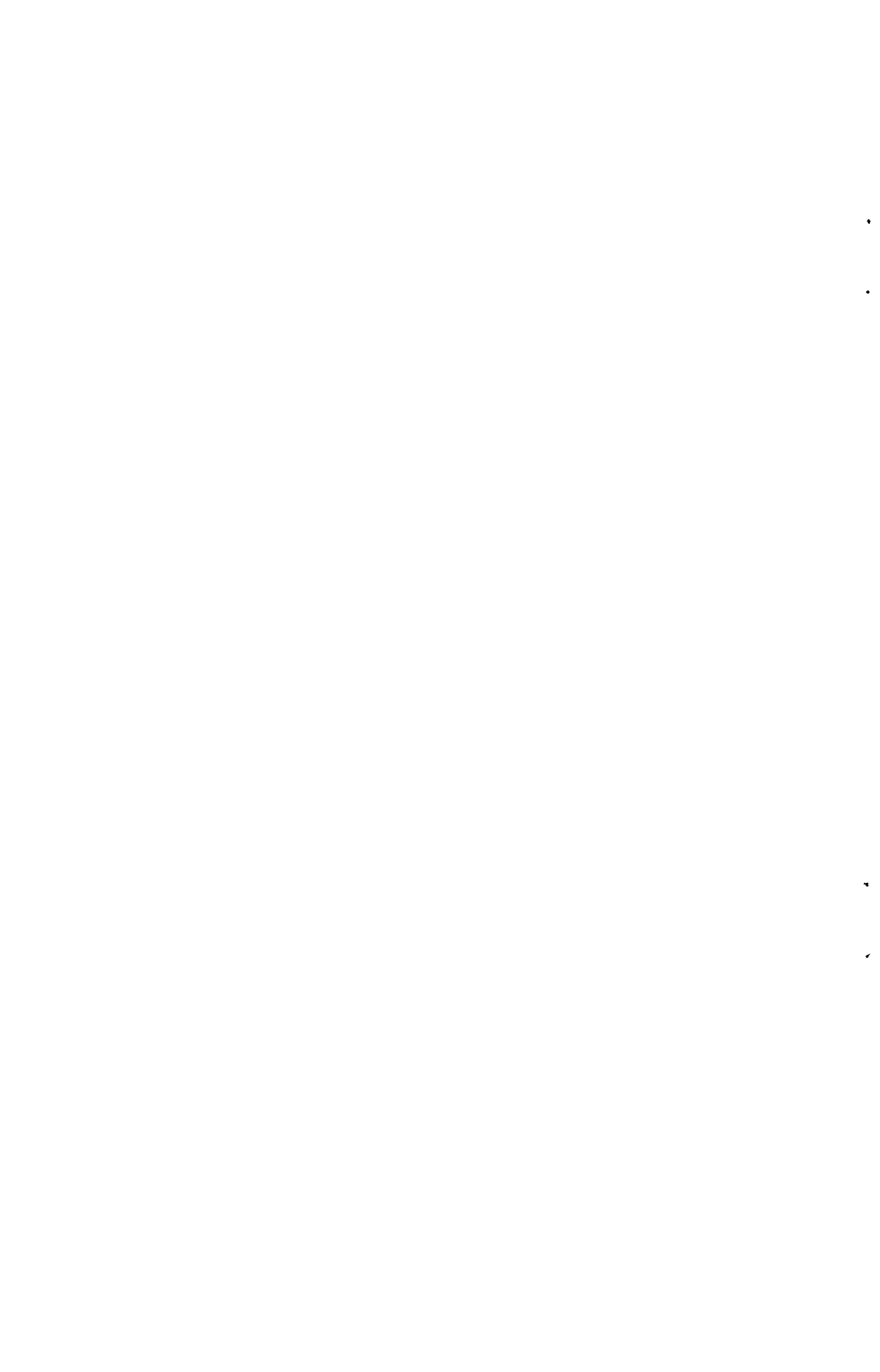

ARTIODACTYLS FROM THE SEYMOUR FORMA-
TION OF KNOX COUNTY, TEXAS

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RECENT collections from the Seymour formation in Knox County, Texas, have yielded a large vertebrate fauna (Hibbard and Dalquest, 1960; and Tihen, 1960). The specimens recovered consist of many hundred individual bones, most of which are very fragmentary. The incompleteness of the material has made the study of the fauna quite difficult. For this reason, and because of the lack of comparative material of the larger Pleistocene mammals at The University of Michigan, only the artiodactyls are reported upon at this time. It is hoped that the study of the invertebrate and vertebrate fauna will soon be completed.

Strickland (1961) discussed the deposition and extent of the Seymour formation in Knox and Baylor counties, Texas. Melton, Dalquest, and Hibbard, in their field work along the valley walls of the South Wichita River, have in a number of localities observed caliche or caliche rubble capping exposures of the Seymour formation. The caliche, when observed in exposures containing the Pearlette ash, occurs in sandy silt and silt, from 3 to 6 feet above the volcanic ash. It is assumed that the caliche is in part of Yarmouth age. It is possible that there might be vertebrate remains in the formation that are post-Pearlette ash and pre-caliche in age, representing part of the fauna that lived in that region during the Yarmouth interglacial. No invertebrate or vertebrate remains have yet been taken from deposits in this interval where the ash is present. In areas where the ash is absent, a careful search of the upper part of the Seymour formation has failed to reveal any fossil remains.

The assignment of the invertebrate and vertebrate remains from below the Pearlette ash to a late Kansan age and a correlation with the Cudahy fauna is based upon the stratigraphic distribution of these fossils in the Crooked Creek formation of southwestern Kansas. To the northwest, in Kansas, *Stegomastodon*, *Megalonyx*, *Nannippus*

phlegon, and *Plesippus* are members of the Seger local fauna (Hibbard, 1951), which occurs in the Stump Arroyo member of the Crooked Creek formation. *Nannippus* and *Plesippus*, in the High Plains region, are not known from deposits younger than the Stump Arroyo member. In the Atwater member (Hibbard, 1958) of the Crooked Creek formation and below the Pearlette ash are found the earliest remains of *Equus s. s.* and *Mammuthus* (Hibbard, 1953) in the High Plains region. Since the remains of *Nannippus* and *Plesippus* are unknown from the Seymour formation and those of *Equus s. s.* and *Mammuthus* are fairly common in the sand, gravel, and silt below the Pearlette ash, the age of the fauna is considered equivalent to that of the Cudahy fauna (Hibbard, 1944, and Paulson, 1961). In most of the exposures containing the Pearlette ash there is silt and clay containing remains of mollusks and microvertebrates. It has not been possible to wash enough of this material to give a representative sample of the small vertebrates that lived at that time.

Following is a discussion of the members of the artiodactyls that have been recovered.

FAMILY TAYASSUIDAE

Platygonus cf. cumberlandensis Gidley

(Fig. 1)

Remains of the peccary are not common in the Seymour formation. Parts of 4 lower jaws and a metatarsal have been recovered from the sand and gravel. Three of the jaws and the metatarsal were found on the Burnett ranch north of US Highway 82 and east of Farm Road 267, along the south valley wall of the south fork of the Wichita River. Dalquest recovered the first specimen, a right jaw, UMMP 39364, with $P_{\frac{3}{2}}-M_{\frac{3}{2}}$, April 14, 1956. The alveoli of $P_{\frac{3}{2}}$ are present. The alveolar length of $P_{\frac{3}{2}}-M_{\frac{3}{2}}$ is 93.0 mm. Melton and Hibbard, during March, 1958, found parts of 2 other jaws in this area. The better jaw (UMMP 39365, Fig. 1), with $P_{\frac{4}{2}}-M_{\frac{3}{2}}$, is from an older individual than the above specimen. The jaw is so broken that it is impossible to take the alveolar length of the cheek tooth series. The greatest length of $P_{\frac{4}{2}}-M_{\frac{3}{2}}$ is 67.8 mm.; that of the younger specimen is 71.2 mm. The third specimen is a fragment of a left jaw with $P_{\frac{4}{2}}$, UMMP 39369. Part of a right jaw, UMMP 39367, broken just posterior to $M_{\frac{2}{2}}$, of an old individual was taken from a sand and gravel pit west of Farm

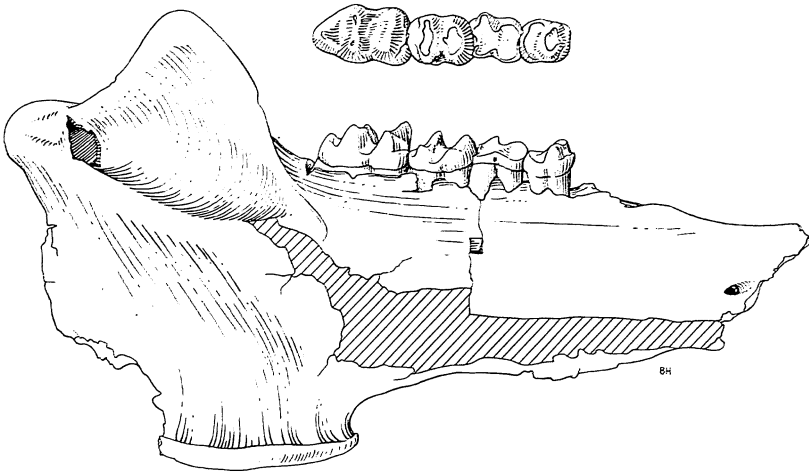


FIG. 1. *Platygonus* cf. *cumberlandensis*, UMMP 39365, right lower jaw, P_7 - M_3 . Labial and occlusal views. $\times 0.5$.

Road 267 on the Patterson ranch. It contains the alveoli of P_2 , and P_3 - M_2 . The teeth are badly worn. The anterior part of the jaw is missing. The depth of the jaw just posterior to the symphysis is 39.5 mm.

Discussion.—The specimens have been compared with those of *Platygonus bicalcaratus* Cope from the Blanco local fauna. The Blanco specimens differ in having larger teeth and much larger and deeper jaws (see Meade, 1945; Hibbard and Riggs, 1949). The Seymour specimens are distinctly larger than *P. compressus* Le Conte, with a more pronounced and concave angle on the lower jaws. Simpson (1949) gives a good discussion of the variation observed in *P. compressus*.

The specimens have been compared with a topotype of *Platygonus cumberlandensis* Gidley, USNM 8912, from the Cumberland Cave local fauna of Maryland (see Gidley and Gazin, 1938). The lower jaws and dentitions agree in most characters. In the Seymour specimens M_1 is somewhat shorter and more crowded. Although the Cumberland Cave and Seymour peccaries cannot be separated specifically on the basis of the lower jaws, greater differences might be found if complete skulls or skeletons were available.

The Seymour specimens compare in size with *Platygonus pearcei*

Gazin (1938) from the Hagerman local fauna but differ in that they have a greater concave angle to the lower jaw and a deeper excavation on the labial side of the jaw at the base of the coronoid process.

FAMILY CAMELIDAE

Camels are among the common animals in the Gilliland local faunule. Their remains are outnumbered only by those of the horses, glyptodons, and turtles. The fragmentary bones indicate that three major groups of the camels lived in the region. There was a giant form, probably *Gigantocamelus*, as well as *Camelops* and *Tanupolama*.

Genus *Gigantocamelus*? Barbour and Schultz

In the collection is the distal end of a radius, UMMP 33527, with a maximum width of 118.0 mm.; the greatest articular width is 113.0 mm. The distal ends of a number of very large metapodials were observed. These are represented in the collection by UMMP 37832 and 37833. An astragalus, UMMP 37827, has a length of 113.0 mm. and a width of 68.0 mm. Three phalanges, UMMP 37834, 37836, and 37838, may belong to this genus.

The above specimens were found both in the sand and gravel and in the overlying red sandy silt.

Genus *Camelops* Leidy

(Fig. 2A)

The distal ends of two radia-ulnae, UMMP 33528 and 37826, were recovered from the sand and gravel. The greatest width of the articular surface at the distal end is 64.0 mm. and 62.3 mm. respectively. The distal end of a tibia-fibula, UMMP 37826, which has a width of 67.0 mm. is approximately the size of the individuals represented by the above radia-ulnae. Also belonging to *Camelops* are two astragali, UMMP 37829 and 37830, and two phalanges UMMP 37835 and 37837.

Dalquest recovered a right maxillary, UMMP 33533, of a large *Camelops* the size of *C. huerfanensis* (Cragin) from the top of the sand and gravel $3\frac{1}{4}$ miles south of Gilliland. The maxillary contains P_3 - M_3 (Fig. 2A). The occlusal length of the tooth series is 166.0 mm.

Other bones recovered were parts of vertebrae and scapulae.

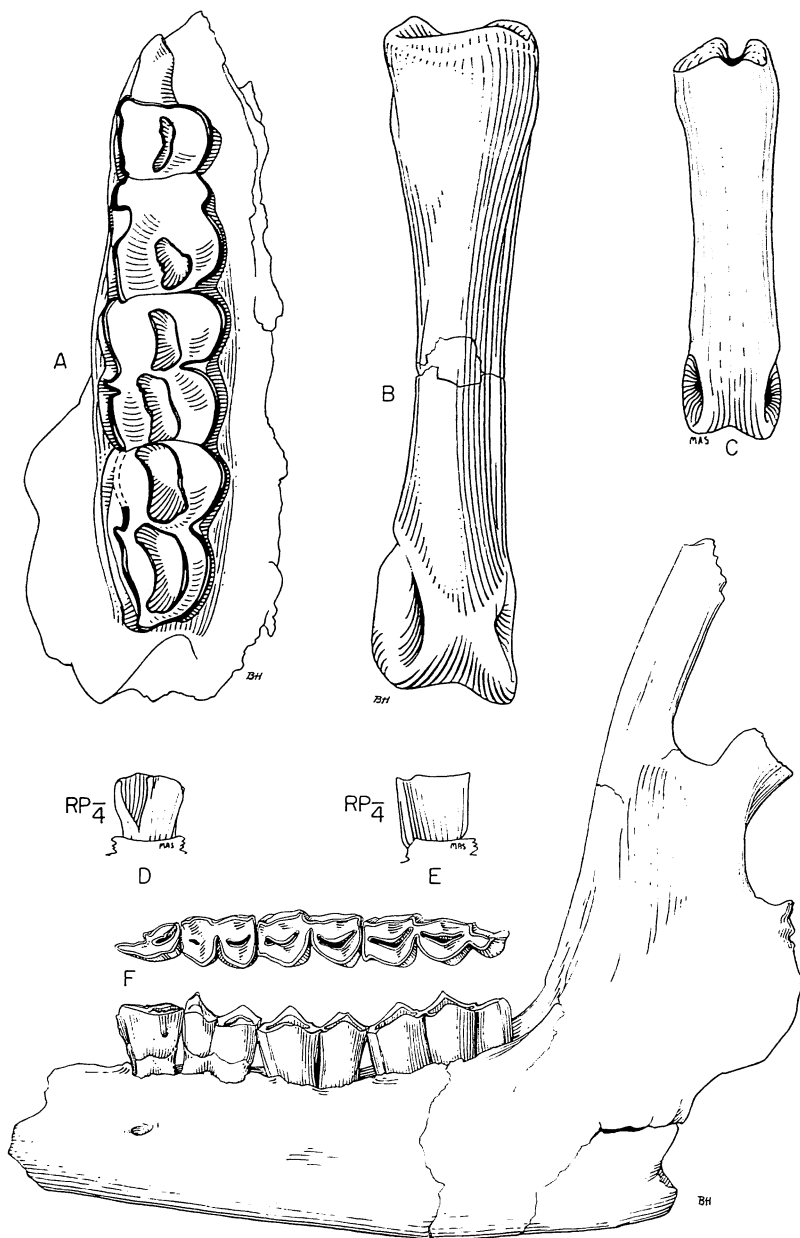


FIG. 2. Pleistocene camels and antilocaprid. *A*, *Camelops* sp., a right maxillary with P^3 - M^3 , UMMP 33533. Occlusal view. $\times 0.5$. *B*, *Tanupolama* sp., phalange, UMMP 33540. Anterior view. $\times 1$. *C*, *Tetrameryx?*, phalange, UMMP 33539. Anterior view. $\times 1$. *D* and *F*, *Tanupolama* cf. *blancoensis*, UMMP 37824; *D*, lingual view of right P_4 ; *F*, left jaw, P_1 - M_3 . Labial and occlusal views. Both $\times 0.5$. *E*, *Tanupolama seymourensis* sp. nov., paratype UMMP 37818, right P_4 . Lingual view. $\times 0.5$.

Genus *Tanupolama* Stock

The small llama-like camels in the Seymour formation are represented by two species. Since one of the species is considered to belong to an undescribed form from the Pleistocene, a brief summary is given of the earlier described species.

Tanupolama macrocephala (Cope)

Holomeniscus macrocephalus Cope, 1893, Geol. Surv. Texas, 4th Ann. Rep. (1892): 85-86, pl. 23, figs. 5, 5a.

Camelus americanus Wortman, 1898, Bull. Amer. Mus. Nat. Hist., 10: 133-134, fig. 21.

Lama stevensi Merriam and Stock, 1925, Carnegie Inst. Wash., Publ. No. 347: 39-42, figs. 1-4.

Tanupolama stevensi (Merriam and Stock), Stock, 1928, Carnegie Inst. Wash., Publ. No. 393: 29-37.

When Cope described *Holomeniscus macrocephalus* from a nearly complete lower jaw (No. 18621, University of Texas, Vertebrate Paleontological Collections), he noted the antero-external and the antero-internal styles on the anterior face of $M_{\frac{2}{3}}$ and $M_{\frac{3}{3}}$. Cope remarked that "*Holomeniscus macrocephalus* approaches more closely the existing lama than any other extinct species of North America."

Wortman (1898) assigned *H. macrocephalus* to *Camelops vitalerianus* Cope at the time he described *Camelus americanus*; the two specimens, therefore, were not compared. Wortman based his decision upon the figures published by Cope, which did not show the antero-external buttress (style) noted by Cope in his text.

Merriam and Stock, at the time they described *Lama stevensi*, compared it with *Camelops hesternus* (Leidy) and the recent llama. When Stock (1928) proposed the genus *Tanupolama*, he recognized the close similarity between *Tanupolama stevensi* and *T. americana* but considered them distinct, since the anterior border of the symphysis of *T. stevensi* does not extend as abruptly upward from the lower border of the ramus as it does in *T. americana*.

We have observed no characters that will separate the three species, and consider the differences to be individual or sexual variation.

The holotype of *Tanupolama macrocephala* lacks the lower canine, a variable character of specimens previously assigned to *T. stevensi*. $P_{\frac{3}{3}}$ may be present or absent.

TABLE I
MEASUREMENTS (IN MM.) OF LOWER DENTITIONS OF HOLOTYPES

	<i>T. stevensi</i> *	<i>T. macrocephala</i>	<i>T. americana</i>
I ₁ , transverse width.....	9.5	10.0	10.5
I ₂ , transverse width.....	8.7	11.4	10.5
I ₃ , transverse width.....	8.5	8.7	9.7
P ₄ , greatest anteroposterior length.....	14.7	14.5	15.8
P ₄ , greatest transverse width.....	9.2	11.0	8.7
M ₁ , greatest anteroposterior length.....	18.8	20.0	18.0
M ₁ , greatest transverse width.....	13.1	15.5	14.0
M ₂ , greatest anteroposterior length.....	26.2	25.0	23.0
M ₂ , greatest transverse width.....	17.0	18.5	17.0
M ₃ , greatest anteroposterior length.....	36.6	34.0	34.4
M ₃ , greatest transverse width.....	16.1	16.5	14.6
Length of symphysis.....	63.0	71.0	73.5
Greatest depth below anterior border of P ₄ ..	27.0	32.0	40.5
Greatest depth below posterior border of M ₃ .	51.0	52.0	—
Distance from posterior side of P ₁ to anterior side of P ₄	57.0	61.0	61.5
Length from anterior side of P ₄ to posterior side of M ₃	95.3	92.4	91.0
Length from anterior side of P ₁ to posterior side of M ₃	161.0	161.5	160.0

* After Merriam and Stock, 1925.

Tanupolama mirifica Simpson

Tanupolama mirifica Simpson, 1929, Bull. Amer. Mus. Nat. Hist., 56: 593-596, 3 figs.

The specimens studied by Simpson are mostly isolated teeth. The holotype is an associated left M₁-M₃. Measurements made from a figure (17A) published by Simpson show a slightly greater anteroposterior length for M₁-M₃ (82.0 mm.) than that of *Tanupolama macrocephala*. The lower jaw (UF 1093) figured by Bader (1957, p. 60) has an anteroposterior length of 77.0 mm. for M₁-M₃. Bader, after studying material collected in Florida since 1929, concluded that most of the teeth agreed well with those of *T. mirifica*.

The few specimens of *Tanupolama mirifica* that we have seen possess P₃'s with two roots, but as previously stated, P₃ may be absent or present. We have been permitted to study a lower jaw (UF

2833) in the University of Florida collection recovered since Bader's study. It contains RI_1 and both the right and left P_3-M_3 . The jaw is that of an old adult taken from the Reddick locality, Marion County, Florida. We have failed to find characters in the P_3-M_3 series that would readily distinguish *T. mirifica* from *T. macrocephala*, but if the Reddick specimen is typical of *T. mirifica*, that species is readily distinguished from *T. macrocephala* by the much longer distal region. The specimen (UF 2833) measures 99.0 mm. from the posterior border of the alveolus of P_1 to the anterior border of P_4 . In the holotype of *T. macrocephala* this distance is 61.0 mm. The distance from the tip of the jaw (between the first incisors) to the anterior border of P_4 is approximately 149.0 mm. In *T. macrocephala* it is 112.0 mm., and in the holotype of *T. americana*, 115.0 mm. *T. mirifica* appears to be a much longer jawed llama. Other isolated teeth recovered in Florida, questionably referred by Simpson (1929) and Bader (1957) to *T. americana*, indicate that a much larger *Tanupolama* also occurs in the fauna. It is too large to be assigned to *T. macrocephala*.

Comments on other described species of Tanupolama.—*Tanupolama parva* Olson (1940) is known only from an M^2 from a late Pleistocene fissure filling near Herculanum, Missouri. Olson states it is "About one-fourth smaller than previously described species of the genus."

Gazin (1942, p. 515) assigned *Procamelus longurio* described by Hay (1921) from a Pleistocene fissure deposit at Anita, Arizona, to the genus *Tanupolama*. *T. longurio* (Hay) is represented by a cervical vertebra and foot bones. It is impossible to assign jaw or skull elements with certainty to this species. Gazin (1942) questionably referred a lower jaw from the Curtis Ranch local fauna to *T. longurio*. Savage (1951, p. 267) thought that Hay's cannon bone offers no traits worthy of a specific diagnosis, and that *T. longurio* should be considered indeterminate.

Hay and Cook (1930) described *Lama? hollomani* from the Holloman gravel pit near Frederick, Oklahoma. The holotype is parts of a right cannon bone. Meade (1953) gives a good description of the specimen recovered from the Holloman gravel pit, and assigns the *Tanupolama* material to *T. hollomani* (Hay and Cook). The anterior part of the right jaw (Texas Memorial Museum 934-47) shows that it belonged to a short-jawed form the size of *T. macrocephala*. The unworn M_3 in the fragment of jaw has an anteroposterior length, at

the alveolar border, of 33.0 mm. The tooth compares in size with those assigned to *T. macrocephala*. It is smaller than the specimens from the Seymour formation of Knox County, Texas, and the specimen described by Gazin from the Curtis Ranch local fauna.

Tanupolama seymourensis, sp. nov.

(Figs. 3, 2E)

Holotype.—UMMP 39379, part of a right lower jaw with P_3 - M_3 . Collected by Walter W. Dalquest (Field No. 786) March 30, 1957. Paratype: UMMP No. 37818, part of left jaw with P_4 - M_3 .

Horizon and type locality.—From the red sandy silt just above the sand and gravel, Seymour formation, Gilliland local faunule of late Kansan (2nd glacial) age. Taken on the east side of Farm Road 267 and north of US Highway 82, along the south valley wall of the South Wichita River, Bruce Burnett ranch (approximately 6 miles south-east of Gilliland, Knox County, Texas).

Diagnosis.—Larger than *Tanupolama macrocephala* but approximately the size of *T. blancoensis* Meade, with higher crowned teeth. P_4 large and slightly rounded on the labial side. There is no groove on the posterolabial part of the tooth. There is no ridge present on the posterolingual border of the tooth (Figs. 2E and 3).

Description of holotype.—The jaw is that of a young adult and lacks the anterior and posterior parts. The P_3 is two-rooted and larger than in *T. macrocephala*. The greatest anteroposterior length is 12.5 mm. and the greatest width is 6.0 mm. P_4 is large and slightly rounded on the labial side, with the anterior edge deflected lingually. A long enamel lake is present on the posterior half of the crown. The posterior face of the tooth is wedged into the anterior face of M_1 . The first molar has a poorly developed anteroexternal style. There is no evidence of an anterointernal style. The M_2 and M_3 have well-developed anterointernal and anteroexternal styles (Fig. 3). The lingual part of the second lobe extends posterior to the junction of the third lobe. This condition would disappear with wear. The lobes overlap on the lingual side for a distance of 4.0 mm. With occlusal wear the third lobe would increase in size but still remain on the same plane as the second lobe, for it is not separated by a groove, or shifted labially as in *Tanupolama blancoensis* or *T. macrocephala*.

The paratype, UMMP 37818, was taken just west of Farm Road

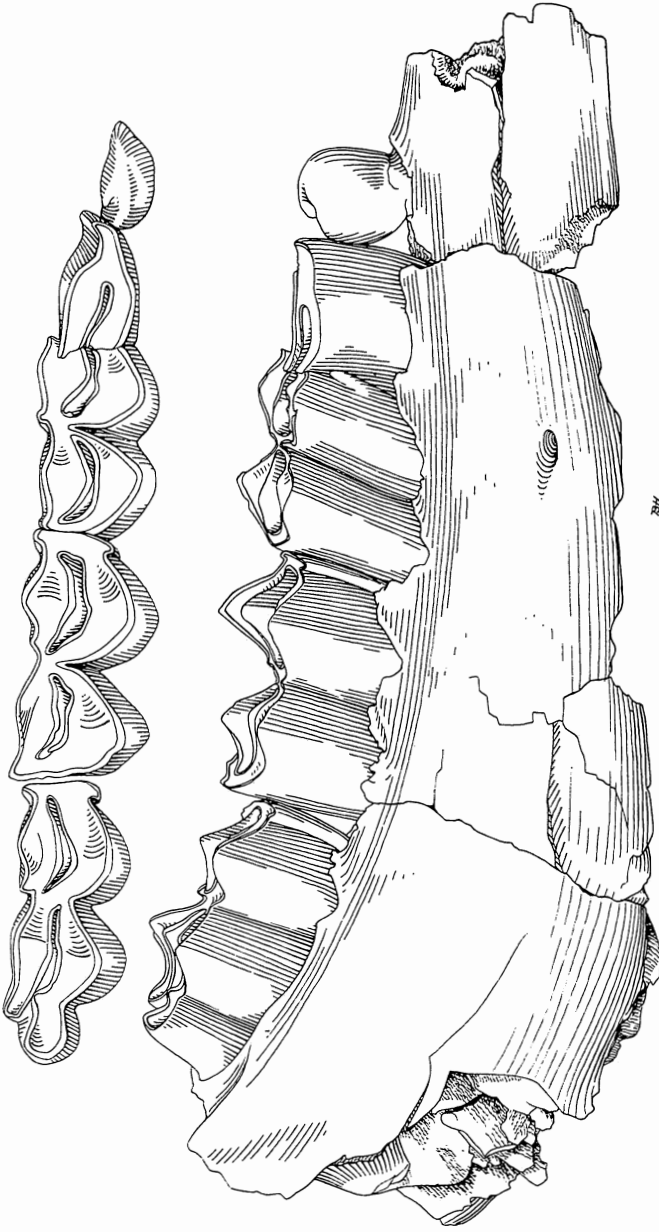


FIG. 3. *Tanuropolana seymourensis*, sp. nov. holotype, UMMP 39379, part of left lower jaw, P₃-M₃. Labial and occlusal views. X 1.

TABLE II
MEASUREMENTS (IN MM.) OF *Tanupolama seymourensis* SP. NOV.

	Holotype No. 37379	Paratype No. 37818
P ₄ greatest anteroposterior length.....	17.8	17.9
P ₄ greatest width.....	9.8	9.5
M ₁ greatest anteroposterior length.....	24.7	25.2
M ₁ greatest width.....	16.0	16.4
M ₂ greatest anteroposterior length.....	32.3	31.4
M ₂ greatest width.....	16.8	—
M ₃ greatest anteroposterior length.....	39.0	39.5
M ₃ greatest width.....	15.2	15.0
P ₄ -M ₃ occlusal length.....	106.7	107.5
P ₄ -M ₃ alveolar length.....	112.6	114.0

267 on the O. L. Patterson ranch by Dalquest (Field No. 295), April 2, 1956, from the red sandy silts just above the sand and gravel. It is part of a left jaw lacking both the anterior and posterior parts. Alveoli of P₃ are present and contain the two roots of that tooth. The dentition is that of a young adult llama-like camel and agrees in all details with that of the holotype, except that the posterolingual border of M₃ is broken and it is not possible to note whether the occlusal surface of the second lobe extended posteriorly past the anterior part of the third lobe.

Tanupolama cf. *blancoensis* Meade

(Figs. 2D and F)

Two associated lower jaws, UMMP 37824, with the symphyseal region missing were taken by Melton and Hibbard, March 28, 1958, from the sand and gravel near the base of the Seymour formation on the Burnett ranch just east of the type locality of *Tanupolama seymourensis*. This llama-like camel has teeth with shorter crowns and molars with more distinct lobes than those of *T. seymourensis* and *T. macrocephala*. The teeth are similar in structure to those of *T. blancoensis*. The P₃ is lacking and there is no evidence that it was ever present. The P₄ is bilobed, with a groove along the labial side just opposite the anterior end of the enamel lake (Figs. 2D and F). The labial sulcus is triangular in shape with the apex at the base of the crown. The deep, broad sulcus makes the anterior part of P₄

blade-like in a dorsal view. The greatest anteroposterior length of P_4 is 17.0 mm., the greatest width is 9.6 mm. The anteroposterior length of P_4-M_3 is 104.0 mm. There is no indication of an anteroexternal style on M_1 , although there is a slight anterointernal style. The anterior lobes of M_2 and M_3 have well-developed posterointernal ridges, which give the anterior lobes of these teeth a more lingual position than the posterior lobes. This is a character of *T. blancoensis*. The third lobe is more labially placed than the third lobe of *T. seymourensis* and *T. macrocephala*.

The specimen is certainly from a younger deposit than *T. blancoensis*, but it is not as advanced in tooth structure as *T. seymourensis*. Until more material is available for study it seems best to refer it to the earlier species.

Discussion.—Dalquest recovered part of the symphyisial region, UMMP 37819, of a *Tanupolama* from the sand and gravel. If it belongs to the same species as the above, it was a short-jawed llama-like camel of the *T. macrocephala* type. The specimen is broken at the posterior edge of the alveolus of P_1 and anterior to the large foramen, which is slightly posterior and ventral to P_1 . The right part of the ramus extends to the posterior alveoli of P_3 or P_4 . The tooth was two-rooted. The distance from the anterior alveoli of P_3 or P_4 to the posterior border of the foramen ventral to P_1 is 61.0 mm. It is possible that this specimen belongs to *T. seymourensis*.

The distal end of a tibia, UMMP 37821, and the proximal end of a metapodial, UMMP 37823, of a *Tanupolama* were recovered from the sand and gravel. A toe bone, UMMP 33540 (Fig. 2B), with a length of 92.0 mm. was taken from the red, sandy silts above the sand and gravel. Fragments of other foot and limb bones were observed.

FAMILY CERVIDAE

A few scattered fragments of a small deer have been found chiefly in the outcrops of the sand and gravel from south of Gilliland eastward to one mile north of Vera, Knox County, Texas.

Odocoileus sp.

(Figs. 4C and F)

Material.—Parts of three antlers, UMMP 37908, 37909, and 37911; and the distal end of a metapodial, UMMP 39362 (Fig. 4C),

which was taken one mile north of Vera from the red sandy silt just above the sand and gravel. A distal end of a humerus, UMMP 37912, was found on the Bruce Burnett ranch just east of Farm Road 267, and part of a left lower jaw, UMMP 37910, was taken two miles north of Vera on the Strudth ranch.

Remarks.—The material is from a small species of *Odocoileus* and compares well with the white-tail deer. The jaw (Fig. 4F) contains P_4 – M_2 and the alveoli for P_2 and P_3 . The teeth are the size of those of *O. virginianus osceola* (Bangs) of Florida. The occlusal length of P_4 – M_3 is 57.5 mm. The lower jaw differs from that of the Recent deer in having a greater depth. The depth of the jaw taken between M_2 and M_3 on the labial side is 25.5 mm. The same measurement of a jaw, UMMZ 97529, with teeth of a comparable stage of wear is 21.7 mm.

At least eight species of Pleistocene deer have been described from North America. Because of the wide range in variation in the Recent species, a critical study of the fossil material is needed before the relationships of the Recent and fossil deer can be determined.

FAMILY ANTILOCAPRIDAE

The genera *Breameryx*, *Capromeryx*, *Ceratomeryx*, *Hayoceros*, *Stockoceros*, and *Tetrameryx* have been described from the Pleistocene of North America. Remains of the Recent genus *Antilocapra* have also been reported. Generic differences are based upon the form of the horn-cores. Since our knowledge of the rest of the skeleton of most of the proposed genera is inadequate, it is nearly impossible to assign isolated teeth and individual skeletal parts to more than sub-family.

Skinner (1942) gives an excellent summary of some of the genera and a detailed account of the wide range of variation observed in *Stockoceros* and *Antilocapra*.

Capromeryx sp.

(Figs. 4A and D)

Among the fossils recovered are parts of a small pronghorn the size of specimens of *Capromeryx furcifer* Matthew, reported from the Cragin Quarry local fauna (Hibbard and Taylor, 1960).

A broken right lower jaw, UMMP 38103, with M_1 – M_3 (Fig. 4A)

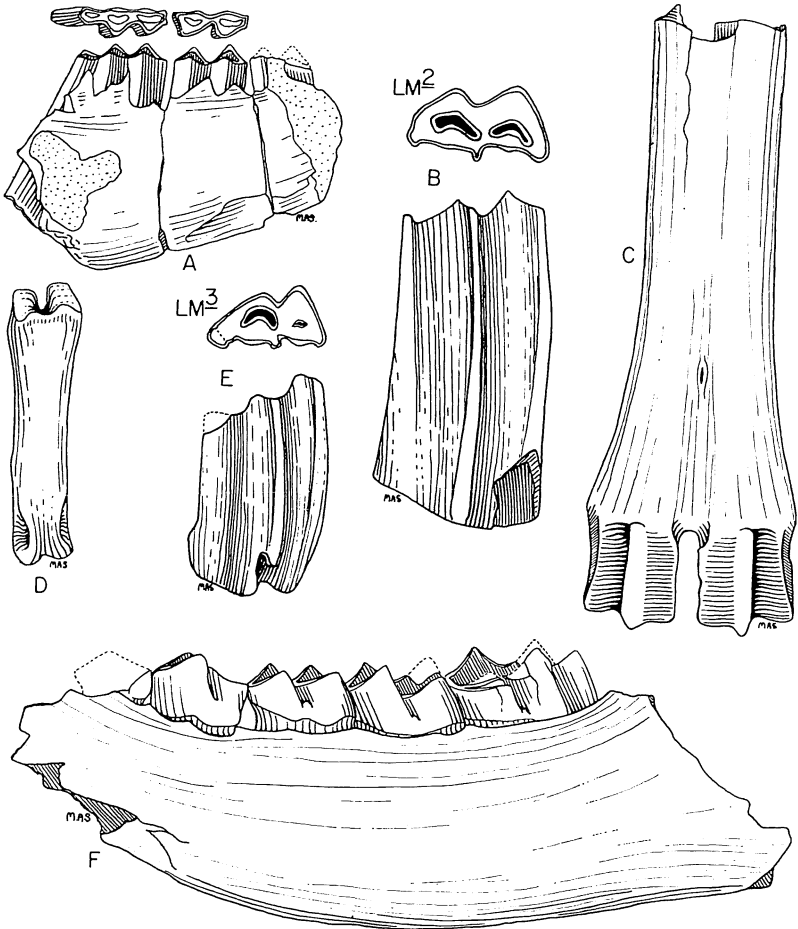


FIG. 4. Pleistocene antilocaprids and deer. A and D, *Capromeryx* sp. A, part of the right lower jaw, UMMP 38130, M_1 - M_3 . Labial and occlusal views. D, phalange, UMMP 38105. Anterior view. B and E, *Tetrameryx?* sp. B, left M^2 , UMMP 38102; E, left M^2 , UMMP 39360. Labial and occlusal views. C and F, *Odocoileus* sp. C, distal end of metapodial, UMMP 39362. Anterior view. F, part of left lower jaw with P_3 - M_3 , UMMP 37910. Labial view. All $\times 1$.

was taken by Dalquest three miles northwest of Red Springs, Baylor County, Texas, from the red sandy silt of the Seymour formation along the south valley wall of the South Wichita River. The occlusal length of M_3 is 13.0 mm. and the greatest width is 4.8 mm.

Other specimens were recovered in Knox County, chiefly on the ranch of Bruce Burnett, east of Farm Road 267 and just north of US Highway 82. These are a first phalange, UMMP 38105, the distal end of a metapodial and two phalanges, UMMP 39361, and two isolated molars, UMMP 38104 and 39363. The first phalange (Fig. 4D) has a length of 37.0 mm. The greatest width of the proximal end is 9.0 mm.

Tetrameryx? knoxensis Hibbard and Dalquest

This large antilocaprid is known only from the horn-cores of the type specimen, which was recovered from the sand and gravel of the Seymour formation $3\frac{1}{2}$ miles south by east of Gilliland from an exposure along the north valley wall of the South Wichita River (Hibbard and Dalquest, 1960).

In the collection are two isolated upper molars (Figs. 4B and E) taken on the Bruce Burnett ranch. These teeth are larger than those of *Capromeryx* and may belong to this larger pronghorn. The left M^2 , UMMP 38102 (Fig. 4B), has a length of 43.5 mm. The greatest occlusal width is 10.0 mm. The other tooth, a left M^3 (Fig. 4E) is from an older individual. A first phalange, UMMP 33539 (Fig. 2C), is much larger than the one referred to *Capromeryx*. Its length is 52.5 mm. The greatest width of the proximal end is 13.5 mm.

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